A2 such digital audio broadcasting and other types of digital communication systems.

Please amend the paragraph beginning at page 1, line 18, as follows:

Proposed systems for providing digital audio broadcasting in the FM radio band are expected to provide near CD-quality audio, data services and more robust coverage than existing analog FM transmissions. However, until such time as a transition to all-digital DAB can be achieved, many broadcasters require an intermediate solution in which the analog and digital signals can be transmitted simultaneously within the same licensed band. Such systems are typically referred to as hybrid in-band on-channel (HIBOC) DAB systems, and are being developed for both the FM and AM radio bands.

A3

Please amend the paragraph beginning at page 4, line 6, as follows:

FIG. 1 shows a portion of a frequency spectrum in an exemplary hybrid in-band on-channel digital audio broadcasting system in accordance with the present invention;

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FIG. 2 is a schematic block diagram of a transmitter in an exemplary hybrid in-band on-channel digital audio broadcasting system in which the present invention may be implemented;

FIG. 3 illustrates the format of a signature OFDM frame in accordance with the present invention; and

FIG. 4 is a schematic block diagram of an exemplary receiver in a hybrid in-band on-channel digital audio broadcasting system in which the present invention may be implemented.

IN THE CLAIMS:

Please amend the claims as follows:

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1. (Amended) A method for estimating the frequency offset in an OFDM communication system, comprising the steps of:

allocating certain locations in an OFDM frame to a signature sequence;

transmitting said signature sequence with data to a receiver, wherein said data is encoded using a differential encoding performed in frequency; and

estimating the frequency offset at said receiver by determining whether a correlated peak associated with said signature sequence is in an expected location.

12. (Amended) A method for estimating the frequency offset in an OFDM communication system, comprising the steps of:

receiving a digital signal, wherein said received contains a signature sequence in an expected location, wherein said received digital signal is encoded using a differential encoding performed in frequency;

correlating said received digital signal using a filter matched to said signature sequence; and

identifying whether a correlated peak associated with said received digital signal is an expected location.

22. (Amended) A method for synchronizing interleavers in an OFDM communication system, comprising the steps of:

allocating certain locations in an OFDM frame to a signature sequence;

transmitting said signature sequence with data to a receiver, wherein said data is encoded using a differential encoding performed in frequency; and

identifying a beginning of an interleaver block based on a location of a correlated peak associated with said signature sequence.

29. (Amended) A receiver in an OFDM communication system for receiving a digital signal containing a signature sequence in an expected location, comprising:

a filter matched to said signature sequence for correlating said received digital signal, wherein said received digital signal is encoded using a differential encoding performed in frequency; and

a frequency offset estimator that identifies whether a correlated peak associated with said received digital signal is an expected location.

30. (Amended) A receiver in an OFDM communication system, comprising:

means for receiving a digital signal having a signature sequence in certain locations, wherein said received digital signal is encoded using a differential encoding performed in frequency;

a filter matched to said signature sequence for correlating said received digital signal; and